REMARKS:

Claim 1 has been amended to

1. Replace "polyester matrix" with "thermoplastic polymer matrix" correcting the lack of antecedent basis for the polyester matrix noted by the Examiner.
2. Insert the words "light absorbent" between the words "one composition" to clarify that the "said at least one composition" is the light absorbent composition.
3. Add the limitation that the transparent article be of single layer construction. Support for the single layer construction can be found in Fig 1 and Fig 2, both of which depict a single layer construction and at page 25 lines 14 – 23 which describe the manufacture of single layer article and at page 26, line 30 – page 27, line 5, where the multi-layer construction is described as an alternative construction. The only alternative to multilayer is single layer.

Claims 4 and 30 have been amended to change the typographical error "braveled" to branched. The word "polystrene" is misspelled and is corrected to read polystyrenes. Support for branched and polystyrenes can be found at page 19, line 28.

Claim 17 has been amended so that the upper limit is 720 nm as suggested by the Examiner. It is also noted that the word "about" appears twice. One of the words "about" has been deleted for grammatical correctness.

Claim 18 has been cancelled since it refers to a multi-layer article and claim 1 from which claim 18 depended now has the explicit limitation that the article be of a single layer construction.

Claims 19 – 26 and 42 -51 have been cancelled in affirmation of the election with traverse to prosecute the invention of Group I as discussed with the Examiner on November 7, 2005.

Claim 27 has been amended to

1. Replace "polyester matrix" with "thermoplastic polymer matrix" correcting the lack of antecedent basis for the polyester matrix noted by the Examiner in claim 1.
2. Add the limitation that the transparent article is of single layer construction. Support for the single layer construction can be found in Fig 1 and Fig 2, both of which depict a single layer construction and at page 25 lines 14 – 23 which describe the manufacture of single layer article and at page 26, line 30 – page 27, line 5, where the multi-layer construction is described as an alternative construction. The only alternative to multilayer is single layer.

New claims 52 and 63 have been added to specifically claim nylon 6 as the incompatible filler. Support for nylon 6 as the incompatible filler can be found at page 24, line 14.

Dependent claims 53-57 and 58-62 have been added to claim a container of single layer and multi-layer construction, respectively; wherein the thermoplastic matrix where the thermoplastic matrix is comprised of polyethylene terephthalate modified with isophthalic acid. Support for this copolymer can be found at page 16 of the specification, page 19, line 28 and page 20, lines 22-28.

Two new independent claims have been added. Claim 64 is an independent claim with claims 65 through 80 depending upon it. Claim 64 is the currently amended claim 1 with the limitation that article be of multilayer construction. Except for claim 80, the dependent claims are the same claims as those depending from claim 1. Claim 80 adds the limitation that the incompatible filler specifically be nylon 6.

Claim 81 is an independent claim with claims 82 through 97 depending upon it.

Claim 81 is the currently amended claim 27 with the limitation that the container be of multilayer construction. Except for claim 97, the dependent claims are the same claims as those depending from claim 1. Claim 97 adds the limitation that the incompatible filler specifically be nylon 6. The following table on the next page shows the location of the support for each claim.

TABLE – SUPPORT FOR NEW CLAIMS

Claim #	Support
52	Page 24, line 14 – nylon 6 as incompatible filler
53	Page 19, line 28; Page 20, lines 22-28 noting isophthalic acid as a comonomer
54	Original Claim 7
55	Original Claim 8
56	Original Claim 9
57	Page 24, line 14 – nylon 6 as incompatible filler
58	Page 24, line 14 – nylon 6 as incompatible filler
59	Page 19, line 28; Page 20, lines 22-28 noting isophthalic acid as a comonomer
60	Original Claim 7
61	Original Claim 8
62	Original Claim 9
63	Page 24, line 14– nylon 6 as incompatible filler
64	Original Claim 1 and page 26, line 30 – page 27, line 5 for multilayer construction
65	Original Claim 2
66	Original Claim 3
67	Original Claim 4
68	Original Claim 5
69	Original Claim 6
70	Original Claim 7
71	Original Claim 8
72	Original Claim 9
73	Original Claim 10
74	Original Claim 11
75	Original Claim 12
76	Original Claim 13
77	Original Claim 14
78	Original Claim 15
79	Original Claim 16
80	Page 24, line 14– nylon 6 as incompatible filler
81	Original Claim 27; page 26, line 30 – page 27, line 5 for multilayer construction
82	Original Claim 28
83	Original Claim 29
84	Original Claim 30
85	Original Claim 31
86	Original Claim 32
87	Original Claim 33
88	Original Claim 34
89	Original Claim 35
90	Original Claim 36
91	Original Claim 37
92	Original Claim 38
93	Original Claim 39
94	Original Claim 40
95	Original Claim 41
96	Original Claim 42
97	Page 24, line 14– nylon 6 as incompatible filler

IN THE DRAWINGS

Substitute drawings are being submitted overcoming Examiner's objection that reference character 17 does not appear in any of the Figures in the Drawing Sheets. Applicants draw to the Examiner's attention that reference character 27 mentioned in the specification does not appear in the drawings either. A new set of drawings including reference characters 17 and 27 are submitted with this response.

It is also noted that the correction of the drawings does not introduce matter. Character references 17 and 27 are in the drawings in the priority document 60/444,313 filed January 31, 2003.

Replacement drawings for Fig-10, Fig-11 and Fig-12 are submitted to correct obvious errors and provide better data resolution. No new data or matter is added in the replacement drawing.

The first correction is the left Y axis which says "Number f domains" with the phrase "Number of domains".

The second correction changes 10^8 to its more common notation 10^8. It is well known to those of ordinary skill in the art that 10^8 means the number 10 raised to the power of 8.

The third correction is the replacement of divisor line "/", in the phrase "Number of domains / 100 square microns" with the common verbal equivalent "per".

The numbers of the left Y axis are formatted to contain only 1 decimal point.

The legend of the right Y Axis has been amended from

"% Light Absorbed = 1- Li "

to read

"% Light Absorbed = Ai = 1- Li "

The insertion of "= Ai" does not add new matter because % Light absorbed and 1-Li both equal Ai. Support that the % Light absorbed is also known as Ai can be found at p11, Line 9. Support that 1-Li = Ai is in the specification at page 11, line 13, page 24, line 14 and page 13, line 24. Since Ai + Li = 1.0; Ai = 1 – Li.

The format of the X axis has been modified to reflect the capitalized word "Nanometers" in all instances and the text type is now bold Times Roman Font.

In all figures, the legend has been moved to the upper left or right hand corner of the chart and the chart extended so there is better resolution of the X axis.

In all figures the spectra lines corresponding to the right Y axis have been modified with dashes and hash marks and the labels better located in the chart so as to make it clearer as to which line corresponds to the legend entry.

No new data or matter has been added to the drawings, making the replacement drawings permissible.

Objections

The December 7, 2005 office action objected to claim 17 as being broader than claim 1 because claim 17 had 750 nm as an upper limit and claim 1 had 720 nm. The upper limit of Claim 17 has been amended to 720 nm and it is now in dependent form consistent with Examiner's recommendation.

Claim 18 was objected to because it refers to a multilayer container and claim 1 is allegedly limited to a single layered article. While Applicants disagree that original claim 1 is only to single layer containers, Applicants have cancelled claim 18, making it independent claim 54 and have amended claim 1 to explicitly call for a single layered article.

These amendments are believed to overcome the Examiner's objections to claims 17 and 18.

Rejections

Rejection 1, point 4

Claims 27 and 39-41 were rejected for failing to comply with the enablement requirement 35 U.S.C. 112, first paragraph. The Examiner also takes the position that the term X is not defined with regard to its meaning, units, or relationship to the claimed subject matter.

This rejection is improper because the Examiner has failed to present a prima facie case of lack of enablement. Also, as discussed below, the term X is defined in both the specification and by the working examples as to its meaning, units, and relationship to the

claimed subject matter. Accordingly, the Examiner is respectfully requested to reconsider this rejection.

Specific technical reasons are always required in order to establish a prima facie case of lack of enablement based upon the conclusion that the specification does not teach how to make and use the claimed invention. (MPEP 2164.04, p2100-198). The current rejection is void of any discussion or reasoning as to how the Examiner has reached the conclusion that the specification does not teach how to make and use the claimed invention. The rejection states in its entirety, and without further explanation, that

> "The term X is not defined in regards to its meaning, units, or relationship with the claimed subject matter".

Without providing any of the required technical reasoning or analysis, the rejection fails to establish a prima facie case of lack of enablement. To the contrary the specification explicitly enables one skilled in the art to practice the invention being claimed.

Assuming that a prima facie case can be made, Applicants respectfully disagree that the invention lacks enablement and that X is not defined in regards to its meaning, units or relationship with the claimed subject matter. The specification, working examples and figures explicitly show how to practice the claimed invention, in particular, as X is defined in technical terms, conceptual terms, and its derivation is described in the specification and demonstrated in the working examples and figures.

The claims of the invention are to the visual haze observed by the naked eye (as opposed to that measured by a spectrophotometer) which can be reduced by adding a compound which absorbs a sufficient amount of light at wavelengths substantially corresponding to the size of the domains within the visible light spectra of approximately 380 to 720nm. (Page 5, lines 14-19)

When light strikes an article, the observer sees the reflected light. The scattering of the reflected light is seen as haze. The invention teaches that the amount of light scattered relative to the incident light can be reduced by adding a sufficient amount of a light absorbing compound that absorbs enough of the light which would otherwise be scattered so as to reduce the visual haze. Because the absorber absorbs

incident light, it necessarily reduces the amount of light available for reflectance and scatter (haze). Applicants believe that the haze is caused by the scattering or diffusion of light at the wavelength that corresponds to the size of the domains in the visible region (380 to 720nm). The solution therefore requires that the absorber reduce the percent of light available for scattering at those wavelengths corresponding to the size of the domains so that the total percent of light available for reflectance at the wavelengths corresponding to the size of the domains is less X, which is 9.6.

The relationship of X to the reduction in visual haze achieved by practicing the invention can be found throughout the specification. For example, a direct relationship of X to visual haze is found at page 12, line 29- page 13, line 2 stating that

> "If X is less than 9.6, then the ordinary observer will at least begin to see a reduction in the visual haze of the article.
>
> Moreover, as X gets smaller, the visual haze of the article will be further reduced."

X is defined in descriptive terms on page 38, lines 9-14 as

> "the amount of light absorbed within the visible spectrum by the light absorbent composition must be such that the summation of the percent of the incident light reflected (i.e. not absorbed) at a wavelength times the number of domains per unit area (i.e. square microns) at the wavelength, and assuming constant intensity of light, must be less than 9.6.
>
> That is the light absorbent composition must absorb light in the visible spectrum such that X is less than 9.6 in the equation
>
> $$X = \sum (Li) \times Ni$$
>
> where L_i is the percent of light available to reflect at a wavelength i and N_i is the number of domains per hundred square microns (10^8 nm^2) at wavelength i, and where i ranges from 400nm to 700nm (i.e. the visible spectrum)."

The equation $X = \sum (1-Ai) \times Ni$, found in claim 27, is a simple mathematical substitution taught in the specification. First, the percent of light available to reflect (Li) plus the percent of the light absorbed (Ai) is equal to 1.0 (100%), (page 13, lines 18 – 26).

Expressed mathematically, Ai + Li = 1 (page 13, line 24). Therefore by simple rearrangement Li = 1- Ai, and substituting 1-Ai for Li, the following is true:

$$X= \quad \sum (Li) \times Ni \quad = \quad \sum (1-Ai) \times Ni$$

This is consistent with the definition and explanation of X on page 13, lines 10 – 13 which reads

> "The total amount of relative light available for reflectance (i.e. that is not absorbed) across the entire visible spectrum, from about 400 nm to about 700nm, must be less than 9.6."

The specification is also clear that the absorbance of light occur[1] at the wavelength corresponding to the size of the domains (page 36, lines 27 – page 37, lines 4) and that enough light be absorbed to reduce the observed scattered reflected light (page 36, lines 7-8). "Since more scattering occurs in regions with more domains, more absorbance is needed at wavelengths with more domains" (Page 36, lines 9-10).

Since X at a given wavelength i is

(1-Ai) x Ni,

where Ai is percent light absorbed at wavelength i and Ni is the number domains per square micron at wavelength i.

Based upon simple mathematics one of ordinary skill can easily determine that to make X (the percent of light available to reflect) smaller for a given number of domains per square micron (Ni), the amount of light absorbed (Ai, percent of light absorbed) must increase. Increasing the amount of light absorbed (Ai) drives the term 1-Ai lower, thus driving X lower. Since Ai is the percent of light absorbed, increasing Ai increases the amount of light absorbed at wavelength i. Because light is either reflected or absorbed (Ai + Li =1) increasing the amount of light absorbed decreases the amount of light reflected and the amount of light scattered which is the light seen as haze. One of ordinary skill in the art would therefore increase the amount of light absorbed at wavelength i by adding more

[1] Light may be absorbed at other wavelengths, but it is not clear how absorbing at wavelengths where there are no domains, and thus no scattered light, reduces the amount of light scattered.

colourant.

It should also be noted that the claim limitation makes clear to use the phraseology percent light absorbed rather than "absorbance". Absorbance is a well known term of art which can be converted to percent of light absorbed using the laws of Beer-Lambert referenced on page 11 of the specification. This conversion is demonstrated in the specification at page 37, line 25.

The rejection further notes that there are no units to X, yet the rejection fails to indicate how or why the lack of units makes the term non-enabling. Applicants maintain that units are not necessary to enablement. Since X is the percent of light available to reflect, it is by definition unitless, anyway.

Enablement of the invention is also found in the working examples on pages 37 through 40. One of ordinary skill in the art can practice the invention by following the working examples or the step by step instructions on page 7, line 23 through page 8, line 2 and page 8, line 20 to page 9 line 3. The working examples of interest are:

1) the polyester bottle with 3% nylon and Sprite Green colorant (page 37 lines 21 – page 38, line 8, Figure 10)

2) the examples of Table III and Figures 11 and 12.

In the first example (Fig 10) the number of domains per 100 square microns (Ni) at each wavelength is depicted in the bars as indicated on the left Y axis. The specification notes that the dimensions of the domains of incompatible fillers can be determined by techniques known in the art such as SEM (page 25, line 26 to page 26, line 4). For example, United States Patent No. 6,083,585 to Cahill et al previously submitted to the Examiner notes that the domains containing the incompatible polybutadiene segments can be measured by $Os0_4$ staining (column 16, lines 42-60).

The percent light absorbed (Ai) at each wavelength is shown by the line on the chart of Fig 10. The label of the right Y axis notes that the percent of light absorbed equals 1-Li (page 39, lines 11-12). This is because Ai + Li = 1.0 (100%) (Page 13, line 24), therefore Ai = 1 – Li. Ai can be determined by one of many techniques, the most common being a spectrophotometer or Absorbance meter using the laws of Beer-Lambert (Page 38, line 20, line 26). Conversion from Absorbance to percent light absorbed according to the well-known laws of Beer-Lambert is readily understood and demonstrated at page 37, line 25.

Once Ni and Ai are known at each wavelength, the value of (1-Ai) x Ni is determined at each wavelength and then summed (Page 38, line 12).

The above mathematical expression is demonstrated in Attached Exhibit A for Fig-10 for the full spectra ranging from 400-700nm. The calculation for 400-410nm is below.

SAMPLE CALCULATION OF X FOR WAVELENGTH (i) 400-410 nm FROM FIGURE 10

1 Wave length (nm) (i)	2 Ai	3 Li = 1-Ai	4 Ni	5 *Ni x (1-Ai) or Ni x Li*
400	0.50	0.50	0.17	*0.08*
401	0.51	0.49	0.00	*0.00*
402	0.51	0.49	0.00	*0.00*
403	0.51	0.49	0.00	*0.00*
404	0.52	0.48	0.00	*0.00*
405	0.52	0.48	0.00	*0.00*
406	0.52	0.48	0.00	*0.00*
407	0.53	0.47	0.00	*0.00*
408	0.53	0.47	0.00	*0.00*
409	0.54	0.46	0.00	*0.00*
410	0.54	0.46	0.17	*0.08*

Using the above table, the mathematical derivation at each wavelength is

Wavelength (i) (X-Axis)	column 1
Ai, the righthand Y-Axis	column 2
1-Ai which equals Li	column 3, is (1-column 2)
Ni, Number of Domains, Left Y Axis, bars	column 4
Ni x Li or (1-Ai)	column 5, is column 3 x column 2

At 400nm, value of Ni x (1-Ai) is 0.5 x 0.17 = 0.08

X for 400 to 410 would then be the sum of each number in column 5, which in this case instance is 0.16

The comparative and working examples in Table III, Figures 11 and 12 demonstrate X and its relationship to the invention as well. Renol Red at 0.05% failed (X>9.6), but Renol Red added at 0.1% showed an increase in the amount of light absorbed and did start to adequately reduce the haze (Table III and page 40, lines 1-2). Referring to Figure 11, one can

see that Ni is available for each wavelength i, and Ai (1-Li) is also available for each wavelength i. The result of the summation of (1-Ai) x Ni for each wavelength from 400-700 nm is given in Table III.

By expressing the formula as it does, the claim specifically defines the spectra of the color absorbing compound and the amount of the absorption required as a function of the domain distribution (number at a given wavelength) causing the haze. The invention is not only enabled for the colorants listed, but enables one of ordinary skill in the art to select the light absorbing composition and the amount of light absorbing compound from the universe of light absorbing compositions.

Rejection 2, Point 5.

Claim 1 was rejected for no antecedent basis for the limitation "polyester matrix". Claim 1 has been amended to state thermoplastic matrix for which there is antecedent basis.

Takeda et al. and Weaver et al. Sworn Behind Under Rule 131.

All the remaining rejections rely upon Takeda et al. (Pub. No. 2005/0238885)[2] and Weaver et al (U.S. Patent No. 6,787,589) for the colorant element of the claims Rather than repeat the substance of the 131 Affidavit under each rejection, the substance is presented here, then referred to within each rejection.

37 C.F.R. §1.131 indicates that when any claim of an application or patent under reexamination is rejected, the inventor of the subject matter of the rejected claim may submit an appropriate oath or declaration to establish invention of the subject matter of the rejected claim prior to the effective date of the reference or activity on which the rejection is based. An oath of the inventors under 37 C.FR. §1.131 is being submitted herewith to show that Takeda et al and Weaver et al are not prior art that can be used to support a rejection under 35 U.S.C. §102 or 35 U.S.C.§103. This declaration shows that the inventors of the invention now being claimed had reduced their claimed invention to practice before the effective dates of the Takeda et al publication and the Weaver et al patent as a reference. Accordingly,

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[2] The office action incorrectly referenced Takeda as Pub. No. 2002/0001684. The proper reference was clarified by a phone conversation from Edwin Sisson to Examiner Dooner on December 12, 2005.

neither Takeda et al, nor Weaver et al can be deemed to be prior art under 35 U.S.C. §102 or 35 U.S.C. §103. Accordingly, the rejection of the claims now pending in the subject patent application over the teachings of the Kim et al in view of Takeda et al and Weaver et al should be withdrawn.

For purposes of 35 U.S.C. §102(e), Takeda et al and Weaver et al have an effective dates as a reference of August 21, 2002 and October 31, 2002, respectively. However, the Rule 131 Declaration of inventors Giovannini, Sisson, and Ferrero ("Giovannini et al") being submitted herewith shows that the inventors of the invention now being claimed had reduced their invention to practice before the effective date of Takeda et al and Weaver et al as references. More specifically, the Declaration of Giovannini et al shows that the invention now being claimed was reduced to practice no later than August 20, 2002. Thus, the Rule 131 Declaration submitted herewith is effective to "swear-behind" the effective date of Takeda et al and Weaver et al. Thus, neither Takeda et al nor Weaver et al can be used to support a rejection under 35 U.S.C. §102(a) or 35 U.S.C. §102(e).

Neither Takeda et al nor Weaver et al claims the subject matter being claimed in the subject patent application because neither claim domains in the thermoplastic matrix. This is in contrast to the invention now being claimed which requires incompatible domains between 400 and 700nm in addition to colorants which absorb light corresponding to the size of the domains. Accordingly, 35 U.S.C. §102(g) is not applicable.

35 U.S.C. §102(c), 35 U.S.C. §102(d), and 35 U.S.C. §102(f) are clearly not applicable in the case at hand. Accordingly, none of the subsections of 35 U.S.C. §102 can be used to support a rejection of the invention now being claimed since the Rule 131 Declaration submitted herewith shows that a rejection under 35 U.S.C. §102(a) and/or 35 U.S.C. §102(e) is not appropriate.

The rejections made under 35 U.S.C. §102 and 35 U.S.C. §103(a) are not appropriate since it has now been shown that neither Takeda et al nor Weaver et al can be used as a reference against the claims pending in the subject patent application. It is accordingly now appropriate to withdraw the rejection of the claims pending in the subject patent application over the teachings of Takeda et al and Weaver et al.

Rejection 3, Point 6.

Claims 1-10, 12-18, and 28-38 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. (Pub. No. 2002/0001684) in view of Takeda et al. (Pub. No. 2005/0238885)[3], Weaver et al (6,787,589), and Cahill et al. (6,503,463).

Theses rejections are overcome because Takeda et al and Weaver et al are no longer proper references since the date of invention was prior to the filing either one of them. Without these references, there is no colorant and the remaining references cannot contain all elements of the claimed invention.

Independent of the Rule 131 Declaration, the rejection is improper because no prima facie case of obviousness has been made. The rejection has not met the burdens of a prima facie case because 1) the combination of the references do not contain all the elements of the claims, 2) the combination destroys the utility of the primary reference and 3) there is no motivation to combine the references.

In order to make a prima facie case of obviousness, all the claimed elements must be present in the references. (See MPEP, 2100-134, Aug 2005). The position taken in the December 7, 2005 Office Action is that Kim et al inherently discloses domains between 380-720nm, Takeda et al teaches that color can mask visual haze and that one would therefore use the colors of Weaver et al. Applicant's disagree on each point, but even if the combination of the three references was proper and disclosed what the Examiner said they disclosed, the combination of the references does not contain the critical elements of the claim.

Even if the combination of the references is allowed and Kim et al inherently discloses domains from 380-720 nm, all the elements of claims 1 and 27 are not present. Nothing in the references or their combination disclose the elements that the colorant(s)

1. absorb(s) light at the wavelengths correlated to the size of the domains

2. absorb(s) an amount of light at those wavelengths proportional to the number of the domains whose size corresponds to the wavelengths.

In fact, while Weaver et al discloses a broad spectrum, not all Amber colorants work.

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3 The office action incorrectly referenced Takeda as Pub. No. 2002/0001684. The proper reference was clarified by a phone conversation from Edwin Sisson to Examiner Dooner on December 12, 2005.

The declaration of Dr. Kevin Rollick, who is not an inventor of the subject application, is submitted. In that declaration Dr. Rollick shares his experience and observations based upon analysis of colorants to mask the haze. See point 14, some ambers work, others do not and the ones that did mask the haze absorbed enough light at the wavelengths corresponding to the size of the domains. Additionally, Dr. Rollick reviewed the spectra of the ambers of Weaver et al and concluded that they are not likely to mask the haze. (Rollick at 18).

Even if Kim et al discloses domains in the region of 380-720nm, it must disclose the distribution (frequency and wavelength) of the domains in order to reach the conclusion that the colorant of Weaver et al absorbs enough light at the wavelength corresponding to the size of the domains. Without the actual domain distribution, one cannot judge whether the colorant will work. (Rollick at 13-D). Absent this information, the combined references cannot disclose the elements that the colorant(s)

1. absorb(s) light at the wavelengths correlated to the size of the domains

2. absorb(s) an amount of light at those wavelengths proportional to the number of the domains whose size corresponds to the wavelengths.

Since these elements are not disclosed, there is no prima facie case of obviousness and the rejection is overcome. This is particularly the case for claims 27-38 which have the limitation that the amount of light available for reflectance [(1- Ai)] at the wavelengths corresponding to the domains be less than 9.6. Which means the colorant chosen and the amount used is a direct function and of direct relationship to the distribution of the domains (number and wavelength) in the article.

An additional key element missing from the combination of the references is domains between 380 – 720 nm. The December 7, 2005 Office Action asserts Kim et al inherently discloses domains in that range when Kim et al teach to control haze by "limiting the degree of orientation so that the MXD6 domain increases in size up to less than the wavelength of light" at page 2, paragraph 23, lines 15-16. The assertion that the phrase "limiting the degree of orientation so that the MXD6 domain increases in size up to less than the wavelength of light." inherently means the domains of Kim et al must lie between 380 nm and 720 nm misreads Kim et al and is legally and technically incorrect.

In order for something to be legally inherent, the Examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly

inherent characteristic necessarily flows from the reference (MPEP 2100-57, Aug 2005). There is no explanation or technical reasoning provided in the Office Action. Therefore, there is no prima facie case of inherency. The Examiner is respectfully requested to provide the technical reasoning upon which the conclusion is made that domains in the range of 380 to 720 nm necessarily flows from Kim et al.

Even if there was reasoning provided, it is virtually impossible to see how the size of the domains in the range of 380 to 720 nm necessarily flows from the phrase "limiting the degree of orientation so that the MXD6 domain increases in size up to less than the wavelength of light." In order to reach the Examiner's interpretation that the domain size "up to wavelength of light" means 380 to 720 nm, one must make at least two assumptions (as opposed to necessarily flow).

The first required assumption regards the meaning of the term "wavelength of light" in Kim et al. Light ranges from 20nm to 1,400nm and includes the far Ultra Violet (UV) (10-200nm), near UV (200-380nm)[4], Visible Light (380-750nm), and Near Infrared 750 to 1,400nm. (Rollick declaration at 10-A). Therefore, it can not necessarily flow that the "wavelength of light" in Kim et al means within the wavelength range of visible light.

The second assumption is that the phrase "up to the wavelength of light" means up to the maximum wavelength of visible light (720 nm) as opposed to up to the minimum wavelength of light (380 nm). As discussed below that assumption and the interpretation which follows is the exact opposite of how one of ordinary skill in the art would interpret the phrase in Kim et al. Because the Examiner's conclusions rely on two critical assumptions, there can be no legally inherent disclosure as the information does not necessarily flow from Kim et al.

That Kim et al inherently teaches domains in the range of 380 – 720 nm is technically incorrect because Kim et al teaches one to keep the domains below 380nm (the minimum wavelength associated with visible light). (Rollick Declaration at 10-D) Kim et al teaches one of ordinary skill to use the extrusion process to minimize the orientation (stretch) of the matrix so that the domains sizes do not increase to where they are greater than the wavelength of light and diffusion occurs (paragraph 25, line 6 and lines 9-11). It is well understood that the wavelength of visible light is not a single number but is any wavelength in the visible

[4] UVA is 315 nm – 380 nm and is also known as the blacklight region.

spectra (380nm to 720nm) (Rollick Declaration at 10-B).

The interpretation that Kim et al teaches one to keep the domains below the minimum wavelength of light (380 nm) is taught at page 2, paragraph 23, lines 7-10 where Kim et al states that if the domains are greater than the wavelength of light, the light scattering increases and refers the reader to Table 1. (Rollick at 11).

Comparison of the data of Table 2 with Table 1 also supports the conclusion that Kim et al teaches one to keep the domains out of the visible spectra. Comparison of the percent haze of the bottle from an extrusion blow polished mold of 0.12% with the 0.2% of the 0 orientation article of Table 1, shows the domains between 100 to 300 nm.

Kim et al teaches using the extrusion blow process to minimize orientation to solve the problem. (paragraph 26, lines 1-3). Because it is well known that extrusion blow has much less stretch than the reheat blow process, one of ordinary skill in the art reads Kim et al as teaching to keep the domains at a minimum below the minimum wavelength of light (380 nm). (Rollick at 12 B).

It is also not apparent to one of ordinary skill that Kim et al inherently discloses domains between 380 and 720nm. The declaration of Dr. Kevin Rollick explains how one of ordinary skill reads the disclosure of Kim et al and Dr. Rollick cannot find an inherent disclosur. (Rollick at 13). The only articles with direct domain measurements are in Table 1 and the domains of the unoriented article are 100 to 300nm and the oriented article 1,000 to 2,000. (Rollick at 13 and 15). In fact, there is an absence of any information that would lead one to infer domains between 380 and 720nm. (Rollick at 13 and 15). The Table of Dr. Rollick at 15 is presented here to demonstrate the lack of disclosure or discussion of light within the visible region (380 – 720 nm).

Up to Less Than the Wavelength of Light		Wavelength of Light	Greater Than The Wavelength of Light	
	< 380 nm	380 – 720nm	> 720nm	
0.1 to 0.3 micron	Table 1	Not found	1 to 2 micron	Table 1
Eliminates Haze			Causes Haze	

Since Kim et al, does not teach domains in the region of visible light, the element of domains between 380 and 720nm of claim 1, or 400-700nm in the case of claims 28 – 38 is not present in the reference and thus no prima facie case of obviousness has been made. Additionally, even if Kim et al does inherently disclose domains between 380 – 720nm, Kim

et al does not disclose the distribution with the range which is necessary to determine whether the color of Weaver et al would correspond to those domains both in the location of the light absorbed and the amount of light absorbed.

The second reason for failing to make a prima facie case of obviousness is that the combination of the references using color (Takeda et al and Weaver et al) destroy the utility of the extrusion blow container of Kim et all, the primary reference. In order to be a prima facie case, the combination must not destroy the utility of the primary reference (See MPEP 2141, p2100-127, Aug 2005), nor is the combination proper when the references teach away from each other (See MPEP 2145 X.D.2, p2100-169, Aug 2005).

Kim et al specifically teaches that its containers have little color, in particular no green, at paragraphs 38 and 39.

> [38] Both the orientation and the large amounts of catalysts used in prior art structures frequently had a deleterious effect on haze, color, and other properties...These deleterious effects have been overcome by controlling the degree of orientation and limiting the amount of catalyst to levels that do not change the refractive characteristics and color, respectively of the blended materials.
>
> [39] Prior art structures that used cobalt as a catalyst tended to appear green in color. In the present invention, his [sic] problem has been solved by controlling the amount of cobalt added to the barrier blend material. The result is an improved structure that is clear and free from the green tint of the prior art structures.

Applicants wish to point out that certain green colors are taught in the instant specification to reduce the visual haze. (page 39, Table III; Fig 9A, Fig 10). Therefore, the use of a colorant as taught in the instant specification to reduce the visual haze would destroy the utility of the colorless container of Kim et al.

The elimination of color is also taught at paragraph 50, lines 6-9. It is well known that this color is not a distinct yellow, green or blue but the darkening of the composition such as occurs with Amber colorants. (Rollick at 17)

First, the addition of a colorant destroys the utility of Kim et al because Kim et al teaches a colorless haze free container. (paragraph 38-39, and paragraph 50, lines 6-9)

Second, because Kim et al teaches a colorless container, Kim et al teaches away from using or adding colorants and the combination of Kim et al with references that teach using

color destroy the utility of Kim et al and the combination is therefore independently overcome on that basis as well.

The third reason obviating a prima facie case of obviousness is because no motivation is presented to combine Kim et al with any of the proposed references. In fact, as pointed out below, there is a lack of motivation because the extrusion blow container of Kim et al is already haze free and transparent (page 3, paragraph 25, line 6). If the extrusion blow container of Kim et al has no haze, then there can be no motivation to add a colorant absorber to mask a haze which does not exist. Adding a colorant to mask the haze of a haze free colorless container merely destroys the utility of a colorless container. Examiner is respectfully requested to provide the motivation to add a colorant to the extrusion blow container of Kim et al, when the extrusion blow container of Kim et al is color free and already has acceptable haze levels.

Kim et al does not teach how to eliminate the haze in the injection-reheat blow container, but there is nothing in Kim et al to lead one of ordinary skill in the art to believe that the size of the domains in the injection-reheat blown container are between 380 and 720nm. (Rollick at 13-B). Rather the opposite is true, because the injection-reheat blow bottle is hazy and Kim et al teach that haze is caused by domains greater than the wavelength of light, one of ordinary skill would conclude that the domains in the injection reheat-blow bottle are greater than the wavelength of light (>720nm). (Rollick at 13-B).

The rejection then seeks to combine Takeda et al with Kim et al, again with mutually exclusive motivations. According to Kim et al, the problem of haze in the container is solved using the extrusion blow process (page 3, paragraph 25, line 6). The Examiner asserts that one would combine the teachings of Kim et al with the teachings of Takeda et al to add color to reduce the haze. However, since the extrusion blown container of Kim et al has no haze there can be no motivation based on the desire to reduce haze to combine Kim et al with Takeda et al to add colorants to reduce the non-existent haze of the extrusion blown container. Additionally, one of ordinary skill in the art would not combine Takeda et al and add color to the extrusion blown container of Kim et al since Kim et al teaches that the container be free of color. Adding color to the container of Kim et al destroys the utility of the color free container of Kim et al, thus making the combination improper.

Additionally, Takeda et al is incorrectly applied in the rejection. First, the substrate of

Takeda et al is not hazy, it is already translucent (clear) (page 2, paragraph 13, line 1). Second, while the Examiner is correct when stating that Takeda et al indicate that it is desired to have a lower haze or not increase the haze when the colorant is applied, this is a goal, not an observation that a colorant will reduce haze. The colorant can do both. Third, the substrate of Takeda et al does not have haze caused by domains. However, Applicants maintain that the haze of Takeda et al is the haze brought on by agglomeration of the color particles, not haze coming from the substrate. (page 3, paragraph 27, describing the haze measurement as a test to insure good dispersion of the colorant in the applicating liquid). Therefore, Takeda does not teach how to use a colorant to reduce haze, but rather teaches to measure the haze as a technique to insure good dispersion of colorants. Since the substrate does not have domains, the haze which may or may not be reduced in Takeda is not the visual haze described in the instant specification. The specification makes clear that the visual haze is not the same as the measured haze and that the measured haze may remain unchanged, but the visual haze is not observed. (Specification at page 4, lines 15 – 32). Therefore, even if one combined Takeda et al to reduce the measured haze, there is no teaching that the observed haze is reduced.

Lastly, the combination of Takeda et al with Weaver et al is no longer proper because they are not proper prior art references because the date of the invention occurred before the filing date of these references.

The Rejection then combines Kim et al with Weaver et al, again without stating the motivation to add an amber color (the colorants of Weaver et al) to the haze free low color extrusion blow container of Kim et al. Because the polyester of Weaver et al would create a colored container, the combination of the color of Weaver et al with the either container of Kim et al is improper because the color destroys the utility of the colorless container of Kim et al. Kim et al teaches away from adding color and no motivation exists to add color to reduce haze in an already haze free extrusion blow container.

The rejections of claims 2, 3 and 28, 29 to a container or bottle are overcome by the above analysis.

The rejections of claims 12, 13 and 36, 37 are also overcome by the above analysis.

The rejection of claim 16 is overcome by the above analysis with the following points. In order to use the red absorbing in the range of 450 nm to 550 nm, the number of domains

between 450 and 550 nm must be large enough to create a visual haze. Nothing in Kim et al, discloses that number of domains at 450 nm to 550 nm.

Rejection 7.

Claim 11 was rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. (Pub. No. 2002/0001684) in view of Takeda et al. (Pub. No. 2005/0238885)[5], Weaver et al (6,787,589), and Cahill et al. (6,503,463) and further in view of Bagrodia et al. (6,737,464)

The analysis of Rejection 6 overcomes this rejection as the application of Kim et al is improper and there is no motivation presented to combine the references, Kim et al teaches away from using color, and their combination destroys the utility of the color free container of Kim et al and Takeda et al and Weaver et al are no longer valid references because the invention was made prior to their publication dates. (See attached 131 Declaration of Inventors)

The combination of Kim et al with Bagrodia et al is also improper because the rejection misreads Bagrodia et al. The rejection states that Bagrodia et al teaches that clays can be used to produce lower haze articles and that the use of polymer clay nano-composites are well known in the art achieve low haze transparent articles. Applicants respectfully submit that Bagrodia et al simply does not teach this.

Bagrodia et al does not teach the use clays to reduce the haze of a container. Bagrodia et al teaches the use of a particular process or clay structure to produce a haze lower than that previously produced from clays. (Column 1, lines 45 – 50)

> The presence of voids and haze in structures, particularly oriented structures containing polymer-clay composites make such structures less applicable for aesthetic and functional reasons. It is desirable therefore, to significantly reduce the haze/voids of articles made from polymer clay platelet particle nanocomposites.

Bragrodia et al teaches an acceptable reduced level of haze and voids by reducing the quartz content in the layered clay material. (Column 1, line 61 and line 65). This creates two types of clays, those in the prior art which contain quartz that cause unacceptable voids

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5 The office action incorrectly referenced Takeda as Pub. No. 2002/0001684. The proper reference was clarified by a phone conversation from Edwin Sisson to Examiner Dooner on December 12, 2005.

and haze. This type of clay would benefit from the instant invention. The other type of clay is the type described in Bragrodia et al which does not have quartz but has reduced voids and has acceptable haze as taught by Bragrodia et al.

The rejection combines Bragrodia et al with Kim et al to obtain the domain sizes. This combination is improper as Kim et al teaches that the domains are the domains of poly (m-xylene adipamide) dispersed into the PET matrix. When Kim et al uses the poly (m-xylene adipamide) as the matrix polymer, there is a salt, but this salt is soluble in the matrix and does not form domains. (Rollick at 16).

The combination of Bragrodia et al is also improper because there is no motivation to combine the clays of Bragrodia et al with Kim et al. The rejection claims the motivation is to lower the haze of the container of Kim et al, but as argued earlier, the extrusion blown bottle of Kim et al is already haze free and there is thus no motivation to combine the references on the basis of reducing haze. This is particularly the case when the matrix is poly (m-xylene adipamide) because there are no domains to cause haze in the extrusion blown bottle of Kim et al. While there may be motivation to lower the haze of the injection-reheat blown bottle, but a combination of nylon with the clay in that bottle would still have measured haze from the nylon domains.

There is also no motivation to combine the extrusion blown bottle of Kim et al that contains the clays of Bragrodia et al with either Takeda et al or Weaver et al because the extrusion blown container of Kim et al is haze free and the clays of Bragrodia et al produce containers having acceptable haze. There is therefore no motivation to combine the references because the containers are purported to be non-hazy.

The Amendments and responses made are believed to overcome every objection and rejection made in the December 7, 2005 Office Action and a notice of allowance is respectfully requested.

Also enclosed in this response is the PTO credit card form authorizing the PTO to charge the credit card the amount of XXX based upon the amended claims as follows:

	Original	Current	Difference	Cost
Independent	4	4	0	0
Dependent	47	74	27	1350

Total 1350 Dollars

The Commissioner is also authorized to deduct any charges or credit any overages to deposit account 50-3651.

Respectfully submitted,

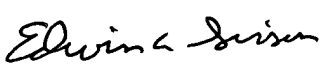

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EXHIBIT A
SAMPLE CALCULATION OF X FROM FIGURE 10

The Sum of ***Ni x (1-Ai)*** or *Ni x Li*, for i= 400-550 nm (col. 5) is *4.26*
The Sum of ***Ni x (1-Ai)*** or *Ni x Li*, for i= 551-700 nm (col. 11) is *2.80*

Total Sum of *Ni x (1-Ai)* or *Ni x Li*, for i= 400-700 nm is 7.06 *7.06*

1	2	3	4	5	6	7	8	9	10	11
Wave length (nm) (i)	Ai	Li = 1-Ai	Ni	*Ni x (1-Ai) or Ni x Li*		Wave length (nm) (i)	Ai	Li = 1-Ai	Ni	*Ni x (1-Ai) or Ni x Li*
400	0.50	0.50	0.17	*0.08*		551	0.23	0.77	0.25	*0.19*
401	0.51	0.49	0.00	*0.00*		552	0.23	0.77	0.00	*0.00*
402	0.51	0.49	0.00	*0.00*		553	0.23	0.77	0.00	*0.00*
403	0.51	0.49	0.00	*0.00*		554	0.24	0.76	0.00	*0.00*
404	0.52	0.48	0.00	*0.00*		555	0.24	0.76	0.25	*0.19*
405	0.52	0.48	0.00	*0.00*		556	0.25	0.75	0.00	*0.00*
406	0.52	0.48	0.00	*0.00*		557	0.25	0.75	0.00	*0.00*
407	0.53	0.47	0.00	*0.00*		558	0.26	0.74	0.00	*0.00*
408	0.53	0.47	0.00	*0.00*		559	0.26	0.74	0.00	*0.00*
409	0.54	0.46	0.00	*0.00*		560	0.27	0.73	0.00	*0.00*
410	0.54	0.46	0.17	*0.08*		561	0.27	0.73	0.00	*0.00*
411	0.54	0.46	0.00	*0.00*		562	0.27	0.73	0.08	*0.06*
412	0.55	0.45	0.25	*0.11*		563	0.28	0.72	0.00	*0.00*
413	0.55	0.45	0.00	*0.00*		564	0.28	0.72	0.00	*0.00*
414	0.55	0.45	0.00	*0.00*		565	0.28	0.72	0.00	*0.00*
415	0.56	0.44	0.00	*0.00*		566	0.29	0.71	0.00	*0.00*
416	0.56	0.44	0.66	*0.29*		567	0.29	0.71	0.00	*0.00*
417	0.56	0.44	0.00	*0.00*		568	0.29	0.71	0.00	*0.00*
418	0.56	0.44	0.00	*0.00*		569	0.30	0.70	0.50	*0.35*
419	0.57	0.43	0.00	*0.00*		570	0.30	0.70	0.00	*0.00*
420	0.57	0.43	0.00	*0.00*		571	0.30	0.70	0.00	*0.00*
421	0.57	0.43	0.00	*0.00*		572	0.31	0.69	0.41	*0.29*
422	0.58	0.42	0.00	*0.00*		573	0.31	0.69	0.00	*0.00*
423	0.58	0.42	0.00	*0.00*		574	0.31	0.69	0.00	*0.00*
424	0.58	0.42	0.17	*0.07*		575	0.32	0.68	0.00	*0.00*
425	0.59	0.41	0.00	*0.00*		576	0.32	0.68	0.00	*0.00*
426	0.59	0.41	0.00	*0.00*		577	0.32	0.68	0.00	*0.00*
427	0.59	0.41	0.00	*0.00*		578	0.33	0.67	0.25	*0.17*
428	0.59	0.41	0.00	*0.00*		579	0.33	0.67	0.00	*0.00*
429	0.60	0.40	0.00	*0.00*		580	0.34	0.66	0.00	*0.00*
430	0.60	0.40	0.00	*0.00*		581	0.34	0.66	0.00	*0.00*
431	0.60	0.40	0.00	*0.00*		582	0.35	0.65	0.00	*0.00*
432	0.60	0.40	0.17	*0.07*		583	0.35	0.65	0.00	*0.00*
433	0.61	0.39	0.41	*0.16*		584	0.36	0.64	0.00	*0.00*
434	0.61	0.39	0.00	*0.00*		585	0.37	0.63	0.00	*0.00*
435	0.61	0.39	0.00	*0.00*		586	0.37	0.63	0.00	*0.00*

436	0.61	0.39	0.00	*0.00*	587	0.38	0.62	0.00	*0.00*
437	0.61	0.39	0.00	*0.00*	588	0.39	0.61	0.00	*0.00*
438	0.61	0.39	0.00	*0.00*	589	0.39	0.61	0.25	*0.15*
439	0.62	0.38	0.33	*0.13*	590	0.40	0.60	0.41	*0.25*
440	0.62	0.38	0.00	*0.00*	591	0.41	0.59	0.00	*0.00*
441	0.62	0.38	0.00	*0.00*	592	0.43	0.57	0.00	*0.00*
442	0.62	0.38	0.00	*0.00*	593	0.44	0.56	0.00	*0.00*
443	0.62	0.38	0.00	*0.00*	594	0.45	0.55	0.17	*0.09*
444	0.62	0.38	0.00	*0.00*	595	0.47	0.53	0.00	*0.00*
445	0.62	0.38	0.00	*0.00*	596	0.48	0.52	0.08	*0.04*
446	0.62	0.38	0.00	*0.00*	597	0.49	0.51	0.00	*0.00*
447	0.62	0.38	0.08	*0.03*	598	0.51	0.49	0.00	*0.00*
448	0.62	0.38	0.00	*0.00*	599	0.52	0.48	0.00	*0.00*
449	0.62	0.38	0.00	*0.00*	600	0.54	0.46	0.08	*0.04*
450	0.62	0.38	0.00	*0.00*	601	0.55	0.45	0.00	*0.00*
451	0.62	0.38	0.00	*0.00*	602	0.56	0.44	0.00	*0.00*
452	0.62	0.38	0.41	*0.16*	603	0.57	0.43	0.00	*0.00*
453	0.61	0.39	0.00	*0.00*	604	0.59	0.41	0.00	*0.00*
454	0.61	0.39	0.00	*0.00*	605	0.60	0.40	0.00	*0.00*
455	0.61	0.39	0.33	*0.13*	606	0.61	0.39	0.00	*0.00*
456	0.61	0.39	0.00	*0.00*	607	0.62	0.38	0.00	*0.00*
457	0.60	0.40	0.00	*0.00*	608	0.64	0.36	0.00	*0.00*
458	0.60	0.40	0.00	*0.00*	609	0.65	0.35	0.17	*0.06*
459	0.60	0.40	0.00	*0.00*	610	0.66	0.34	0.00	*0.00*
460	0.60	0.40	0.00	*0.00*	611	0.66	0.34	0.17	*0.06*
461	0.59	0.41	0.00	*0.00*	612	0.65	0.35	0.00	*0.00*
462	0.59	0.41	0.08	*0.03*	613	0.65	0.35	0.00	*0.00*
463	0.58	0.42	0.00	*0.00*	614	0.64	0.36	0.00	*0.00*
464	0.57	0.43	0.00	*0.00*	615	0.64	0.36	0.00	*0.00*
465	0.57	0.43	0.00	*0.00*	616	0.64	0.36	0.08	*0.03*
466	0.56	0.44	0.00	*0.00*	617	0.63	0.37	0.00	*0.00*
467	0.56	0.44	0.00	*0.00*	618	0.63	0.37	0.00	*0.00*
468	0.55	0.45	0.00	*0.00*	619	0.62	0.38	0.00	*0.00*
469	0.55	0.45	0.00	*0.00*	620	0.62	0.38	0.00	*0.00*
470	0.54	0.46	0.00	*0.00*	621	0.62	0.38	0.00	*0.00*
471	0.53	0.47	0.08	*0.04*	622	0.61	0.39	0.00	*0.00*
472	0.52	0.48	0.00	*0.00*	623	0.61	0.39	0.00	*0.00*
473	0.51	0.49	0.41	*0.20*	624	0.60	0.40	0.25	*0.10*
474	0.50	0.50	0.00	*0.00*	625	0.60	0.40	0.00	*0.00*
475	0.49	0.51	0.00	*0.00*	626	0.59	0.41	0.00	*0.00*
476	0.48	0.52	0.00	*0.00*	627	0.59	0.41	0.00	*0.00*
477	0.48	0.52	0.41	*0.22*	628	0.58	0.42	0.08	*0.03*
478	0.47	0.53	0.00	*0.00*	629	0.58	0.42	0.33	*0.14*
479	0.46	0.54	0.00	*0.00*	630	0.57	0.43	0.00	*0.00*
480	0.45	0.55	0.00	*0.00*	631	0.58	0.42	0.00	*0.00*
481	0.44	0.56	0.00	*0.00*	632	0.58	0.42	0.00	*0.00*
482	0.43	0.57	0.00	*0.00*	633	0.59	0.41	0.25	*0.10*
483	0.42	0.58	0.00	*0.00*	634	0.59	0.41	0.00	*0.00*
484	0.41	0.59	0.00	*0.00*	635	0.60	0.40	0.00	*0.00*
485	0.41	0.59	0.17	*0.10*	636	0.60	0.40	0.00	*0.00*
486	0.40	0.60	0.00	*0.00*	637	0.61	0.39	0.00	*0.00*
487	0.39	0.61	0.00	*0.00*	638	0.61	0.39	0.00	*0.00*

488	0.38	0.62	0.00	*0.00*	639	0.61	0.39	0.17	*0.06*
489	0.37	0.63	0.00	*0.00*	640	0.62	0.38	0.00	*0.00*
490	0.36	0.64	0.00	*0.00*	641	0.62	0.38	0.00	*0.00*
491	0.35	0.65	0.25	*0.16*	642	0.63	0.37	0.00	*0.00*
492	0.34	0.66	0.00	*0.00*	643	0.64	0.36	0.00	*0.00*
493	0.34	0.66	0.00	*0.00*	644	0.64	0.36	0.00	*0.00*
494	0.33	0.67	0.33	*0.22*	645	0.65	0.35	0.00	*0.00*
495	0.32	0.68	0.00	*0.00*	646	0.66	0.34	0.00	*0.00*
496	0.31	0.69	0.08	*0.06*	647	0.66	0.34	0.08	*0.03*
497	0.30	0.70	0.00	*0.00*	648	0.67	0.33	0.25	*0.08*
498	0.29	0.71	0.00	*0.00*	649	0.67	0.33	0.00	*0.00*
499	0.28	0.72	0.00	*0.00*	650	0.68	0.32	0.08	*0.03*
500	0.27	0.73	0.17	*0.12*	651	0.69	0.31	0.00	*0.00*
501	0.26	0.74	0.00	*0.00*	652	0.70	0.30	0.00	*0.00*
502	0.26	0.74	0.00	*0.00*	653	0.71	0.29	0.00	*0.00*
503	0.25	0.75	0.00	*0.00*	654	0.73	0.27	0.00	*0.00*
504	0.24	0.76	0.00	*0.00*	655	0.74	0.26	0.41	*0.11*
505	0.24	0.76	0.00	*0.00*	656	0.75	0.25	0.00	*0.00*
506	0.23	0.77	0.00	*0.00*	657	0.76	0.24	0.00	*0.00*
507	0.22	0.78	0.00	*0.00*	658	0.77	0.23	0.00	*0.00*
508	0.22	0.78	0.00	*0.00*	659	0.78	0.22	0.00	*0.00*
509	0.21	0.79	0.00	*0.00*	660	0.79	0.21	0.00	*0.00*
510	0.21	0.79	0.17	*0.13*	661	0.81	0.19	0.00	*0.00*
511	0.20	0.80	0.00	*0.00*	662	0.83	0.17	0.08	*0.01*
512	0.20	0.80	0.33	*0.26*	663	0.84	0.16	0.00	*0.00*
513	0.20	0.80	0.00	*0.00*	664	0.86	0.14	0.00	*0.00*
514	0.20	0.80	0.00	*0.00*	665	0.87	0.13	0.00	*0.00*
515	0.20	0.80	0.00	*0.00*	666	0.89	0.11	0.00	*0.00*
516	0.19	0.81	0.41	*0.33*	667	0.90	0.10	0.25	*0.02*
517	0.19	0.81	0.00	*0.00*	668	0.92	0.08	0.33	*0.03*
518	0.19	0.81	0.00	*0.00*	669	0.94	0.06	0.00	*0.00*
519	0.19	0.81	0.00	*0.00*	670	0.95	0.05	0.00	*0.00*
520	0.19	0.81	0.00	*0.00*	671	0.96	0.04	0.00	*0.00*
521	0.19	0.81	0.08	*0.07*	672	0.96	0.04	0.17	*0.01*
522	0.19	0.81	0.00	*0.00*	673	0.96	0.04	0.00	*0.00*
523	0.19	0.81	0.00	*0.00*	674	0.96	0.04	0.00	*0.00*
524	0.19	0.81	0.08	*0.07*	675	0.97	0.03	0.00	*0.00*
525	0.19	0.81	0.00	*0.00*	676	0.97	0.03	0.00	*0.00*
526	0.19	0.81	0.00	*0.00*	677	0.97	0.03	0.00	*0.00*
527	0.19	0.81	0.00	*0.00*	678	0.98	0.02	0.00	*0.00*
528	0.19	0.81	0.00	*0.00*	679	0.98	0.02	0.00	*0.00*
529	0.19	0.81	0.00	*0.00*	680	0.98	0.02	0.00	*0.00*
530	0.19	0.81	0.50	*0.40*	681	0.97	0.03	0.00	*0.00*
531	0.19	0.81	0.00	*0.00*	682	0.96	0.04	0.00	*0.00*
532	0.19	0.81	0.00	*0.00*	683	0.95	0.05	0.00	*0.00*
533	0.19	0.81	0.33	*0.27*	684	0.94	0.06	0.00	*0.00*
534	0.19	0.81	0.00	*0.00*	685	0.93	0.07	0.00	*0.00*
535	0.19	0.81	0.00	*0.00*	686	0.92	0.08	0.08	*0.01*
536	0.19	0.81	0.00	*0.00*	687	0.90	0.10	0.25	*0.02*
537	0.19	0.81	0.00	*0.00*	688	0.89	0.11	0.00	*0.00*
538	0.19	0.81	0.00	*0.00*	689	0.88	0.12	0.17	*0.02*
539	0.19	0.81	0.17	*0.13*	690	0.87	0.13	0.00	*0.00*

540	0.20	0.80	0.00	*0.00*
541	0.20	0.80	0.00	*0.00*
542	0.20	0.80	0.00	*0.00*
543	0.20	0.80	0.00	*0.00*
544	0.21	0.79	0.00	*0.00*
545	0.21	0.79	0.00	*0.00*
546	0.21	0.79	0.00	*0.00*
547	0.21	0.79	0.00	*0.00*
548	0.22	0.78	0.00	*0.00*
549	0.22	0.78	0.17	*0.13*
550	0.22	0.78	0.00	*0.00*

691	0.85	0.15	0.00	*0.00*
692	0.82	0.18	0.00	*0.00*
693	0.79	0.21	0.00	*0.00*
694	0.77	0.23	0.17	*0.04*
695	0.74	0.26	0.00	*0.00*
696	0.72	0.28	0.00	*0.00*
697	0.69	0.31	0.00	*0.00*
698	0.67	0.33	0.00	*0.00*
699	0.64	0.36	0.00	*0.00*
700	0.61	0.39	0.00	*0.00*